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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/692,380

10/23/2003

Robert Bowser

72255/33235

8442

23380 7590 04/17/2008

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EXAMINER

HALIYUR, VENKATESH N

ART UNIT

PAPER NUMBER

2619

NOTIFICATION DATE

DELIVERY MODE

04/17/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/692,380	Applicant(s) BOWSER ET AL.	
	Examiner VENKATESH HALIYUR	Art Unit 2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01/22/2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The amendment filed on 01/22/2008 has been considered but is ineffective to overcome Parker et al and Kiko et al references. However the amendments necessitated a new ground(s) of rejections as made in this office action using Parker et al and Kiko et al references. Rejection follows.
2. Claims 1-33 are pending in the application. Claims 30-33 are new.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 1,8,10,15,23,31,32 recite the limitations of "primary communications signal" and/or "second primary communication signals" but the specification refers to these as Ethernet primary communications (as in claim 28) and Ethernet secondary communications as well as Ethernet Secondary signals and as well as "primary network traffic" and Ethernet secondary data signal and hence is indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the

invention. There is insufficient antecedent basis for the limitation in claim 28 “Ethernet primary communication signals” limitation in the claims. Therefore appropriate corrections are required to these claims.

Claim Rejections – 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-31 rejected under 35 U.S.C. 103(a) as being unpatentable over Parker et al [US Pub: 2004/0164619] in view of Kiko [US Pub: 2003/0068033].

Regarding claims 1,3-5 Parker et al in their invention of “Connector Module With Embedded Power-Over-Ethernet Functionality” disclosed a method and system (**Figs 1-3, 0019-0024**), comprising: receiving a power signal from a power input (**input 48V DC, Fig 3, para 0022**); receiving a data signal from a data input (**Ethernet RJ-45, item 230 of Fig 2, para-0023**); receiving a primary communication signal (**serial control information signal, para 0045**); sending a discover signal (**detection signal, para 0043**) to a network device (**switching device, item 110 of Fig 1**); receiving a discovery response (**status information, para 0027**) from a network device; and upon receipt of the discovery response, Parker et al disclosed transferring the power signal, the primary communication

signal, and the data signal on a shared medium (**PoE, power-over-ethernet circuit, para 0020**) to the network device (**switching device, item 110 of Fig 1, para 0046-0053**) and disclosed the step of receiving a second data signal and multiplexing the data signal (**receive data over RJ-45 ethernet port**) and the second data signal for transmission on the shared medium (**para 0022-0023**) , but fails to disclose concurrently transferring the power signal, the primary communication signal, and the data signal on a shared medium to the network device. However, Kiko in the invention of “Telecommunications Gateway and Method” disclosed a method of concurrently transferring power signal, control signal and data signal through an integrated wiring system connected to a network device (**item 228 of Fig 2, para 0041-0042, para 0048**).

Therefore it would have been obvious for one of ordinary skill in the art at the time the invention was made to use the method of concurrently transferring power signal, control signal and data signal through an integrated wiring system as taught by Kiko in the system of Parker et al to concurrently transferring power signal, primary communication signal and data signal through an integrated wiring system connected to a network device. Hence, one is motivated as such in order to concurrently transfer power, communication and data signals over a common wiring medium to communicate with a network device that provides cost advantages by eliminating the need for additional wiring needed for each of these signals to be transferred over separate wiring medium.

Regarding claim 2, Parker et al disclosed the step of modulating the data signal (**IP data**) in a manner interoperable with the power signal (**para 0022-0023**).

Regarding claims 6-7,9,15-16, Parker et al disclosed the steps of: receiving an Ethernet data signal and converting the Ethernet data signal into a bit-stream second data signal (**data transfer activity between switch and device, para 0023**) and the step of multiplexing the data signal and the second data signal for transmission on the shared medium (**transferred over PoE circuits over LAN, para 0019-0027,0060**) but fails to disclose concurrently transferring the second data signal on the shared medium with the power signal, the primary communication signal and the data signal. However, Kiko disclosed a method of concurrently transferring power signal, control signal and data signal through an integrated wiring system connected to a network device (**item 228 of Fig 2, para 0041-0042, para 0048**).

Therefore it would have been obvious for one of ordinary skill in the art at the time the invention was made to use the method of concurrently transferring power signal, control signal and data signal through an integrated wiring system as taught by Kiko in the system of Parker et al to concurrently transferring power signal, primary communication signal (**serial control information signal, para 0045**) and data signal through an integrated wiring system connected to a network device. Hence, one is motivated as such in order to concurrently transfer power, communication and data signals over a common wiring medium to

communicate with a network device that provides cost advantages by eliminating the need for additional wiring needed for each of these signals to be transferred over separate wiring medium.

Regarding claim 8, Parker et al disclosed a method, comprising: sending a discovery request signal to determine the presence of a network device (**detect PoE compliant devices**) capable of accepting power over a network (**para 0022-0027**); receiving a discovery response signal (**status information**) from the network device (**controller**); receiving a primary communication signal; receiving a data signal from a data input (**control information data, para 0020**); receiving a power signal from a power input (**DC power supply, para 0022-0024**); and upon receipt of the discovery response signal, transferring power to the network device (**para 0027**), but fails to disclose concurrently transferring the power signal, the primary communication signal and the data signal over a shared medium. However, Kiko disclosed a method of concurrently transferring power signal, control signal and data signal through an integrated wiring system connected to a network device (**item 228 of Fig 2, para 0041-0042, para 0048**).

Therefore it would have been obvious for one of ordinary skill in the art at the time the invention was made to use the method of concurrently transferring power signal, control signal and data signal through an integrated wiring system as taught by Kiko in the system of Parker et al to concurrently transferring power signal, primary communication signal (**serial control information signal, para 0045**) and data signal through an integrated wiring system connected to a

network device. Hence, one is motivated as such in order to concurrently transfer power, communication and data signals over a common wiring medium to communicate with a network device that provides cost advantages by eliminating the need for additional wiring needed for each of these signals to be transferred over separate wiring medium.

Regarding claim 10, Parker et al disclosed an apparatus (**Figs 1-3, 0019-0024**), comprising: a power input for receiving a power signal (**input 48V DC, Fig 3, para 0022**); a primary communication input for receiving a primary communication signal; a data input for admitting a data signal (**Ethernet RJ-45, item 230 of Fig 2, para-0023**); and means for modulating the data signal with the power signal on a shared medium (**PoE, power-over-ethernet circuit**) to the network device (**peripheral device, item 120 of Fig 1, 0020-0023, 0060**) but fails to disclose concurrently transferring the power signal, the primary communication signal and the data signal over a shared medium. However, Kiko disclosed a method of concurrently transferring power signal, control signal and data signal through an integrated wiring system connected to a network device (**item 228 of Fig 2, para 0041-0042, para 0048**).

Therefore it would have been obvious for one of ordinary skill in the art at the time the invention was made to use the method of concurrently transferring power signal, control signal and data signal through an integrated wiring system as taught by Kiko in the system of Parker et al to concurrently transferring power signal, primary communication signal (**serial control information signal, para**

0045) and data signal through an integrated wiring system connected to a network device. Hence, one is motivated as such in order to concurrently transfer power, communication and data signals over a common wiring medium to communicate with a network device that provides cost advantages by eliminating the need for additional wiring needed for each of these signals to be transferred over separate wiring medium.

Regarding claims 11, Parker et al in their invention of “Connector Module With Embedded Power-Over-Ethernet Functionality” disclosed means for connecting transmit and receive transformers to Ethernet jacks (**RJ-45 jacks**) in different configurations for transferring data and power signals (**para 0019-0024, 0064-0065**), but fails to disclose means for modulating is a frequency shift-keying scheme. However, Kiko disclosed a modulator (**GFSK modem chip, para 0052**) to modulate signals using frequency shift-keying scheme to transmit digital data (**para 0058**).

Therefore it would have been obvious for one of ordinary skill in the art at the time the invention was made to use modem with frequency shift keying technique to modulate digital signals as taught by Kiko in the system of Parker et al to modulate data signal and power signal over a shared medium. Hence, one is motivated as such in order to modulate digital data over a transmitting medium using a FSK modem on a chip for both cost and space saving advantage.

Regarding claims 12-14, Parker et al disclosed that the data is serial control data (**para 0045**) and the data is Ethernet data (**from Ethernet jack**) and

further including means to convert the Ethernet data to serial bit-stream data **(in PoE circuit/microchip, item 300 of Fig 3, para 0047)**.

Regarding claims 17, Parker et al disclosed that the power signal is sourced from a DC power source **(para 0024)**.

Regarding claims 18-19, Parker et al disclosed that the data input comprises an RJ-45 jack **(Ethernet Jacks, items 364 of Fig 6)**, wherein the RJ-45 jack connects the data input to a network **(para 0022-0023)** and the RJ-45 jack further includes any necessary transformers for impedance matching, isolation, and noise rejection **(para 0063-0064)**.

Regarding claims 20-21, Parker et al disclosed sensing circuits **(voltage sensing circuit, VR_SESN, item 320 of Fig 3)** which detect whether the network device connected to the network port requires power and the sensing circuits require power **(para 0043)** and wherein the sensing circuits couple power and data signals and transmit them to the network device on the shared medium **(PoE, para 0022-0027)**.

Regarding claim 22, Parker et al disclosed that the sensing circuits detect that the network device does not require power **(devices not adapted to receive PoE)** and wherein the sensing circuits allow for passive transmission of data signals only **(para 0060)**.

Regarding claim 23, Parker et al disclosed an apparatus **(Figs 1-3, 0019-0021)**, comprising: means adapted for supplying power for internal circuitry via power signals produced by a power supply **(input 48V DC, Fig 3, para 0022,0024)**;

means adapted for receiving a primary communication signal for the device (**serial control information signal, para 0045**); means adapted for receiving data signals for the device (**Ethernet RJ-45, item 230 of Fig 2, para-0023**); means adapted for coupling the power signals to the data signals on a shared medium (**PoE, para 0024, Fig 3**); but fails to disclose means adapted for concurrently transmitting the coupled signals and the primary communication signal to at least one network port via the shared medium and wherein the network device receives data, primary communication, and power signals from the network port. However, Kiko disclosed a method of concurrently transferring power signal, control signal and data signal over a shared medium connected to a network device via a wall jack or port (**item 574 of Fig 5a, see Figs 4-5a, para 0064-0065**).

Therefore it would have been obvious for one of ordinary skill in the art at the time the invention was made to use the method of concurrently transferring power signal, control signal and data signal through an integrated wiring system as taught by Kiko in the system of Parker et al to concurrently transferring power signal, primary communication signal (**serial control information signal, para 0045**) and data signal over a shared medium connected to a network device via a wall jack or port. Hence, one is motivated as such in order to concurrently transfer power, communication and data signals over a shared medium to communicate with a network device via a port that provides cost advantages by eliminating the need for additional wiring needed for each of these signals to be transferred over separate wiring medium.

Regarding claims 24-25, Parker et al disclosed that the data input includes an RJ-45 jack for supplying data signals to the apparatus (**para 0023**) and means for detecting the presence of the at least one network device (**para 0043**).

Regarding claim 26, Parker et al disclosed, receiving a second data signal for the network device (**Ethernet switching device, item 110 of Fig 1**); and transferring the second data signal for the network device on a second medium (**para 0022,0060**).

Regarding claim 27, Parker et al. disclosed, wherein the second data signal is a primary Ethernet data signal (**data over Ethernet port, para 0022,0060**).

Regarding claim 28, Parker et al disclosed a Primary Ethernet Input configured to receive Ethernet primary communication signals (**data over RJ-45 jack TX/RX pair, para 0023**); and a second communications medium coupling the Primary Ethernet Input to the network device (**Ethernet switching device, item 110 of Fig 1, para 0022,0060**).

Regarding claim 29, Parker et al disclosed wherein the shared medium comprises a first set of pairs of conductors (TX pair) and the second communications medium comprises a second set of pairs of conductors (**RX pair, para 0020**).

Regarding claim 30-31, Parker et al disclosed wherein the data signal is an out of band communication signal and wherein the shared medium is a multi-conductor cable (**CAT-5 cable**); the data and power signals are sent over an unused

pair of conductors **(TX/RX pair for power, para 0020)** ; and the primary communication signal is sent over a used pair of conductors **(para 0023,0045)**.

Response to Arguments

6. Applicant's arguments with respect to claims 01/22/2008 with respect to claims 1-29 have been considered but are not persuasive.

With respect to applicant's argument that Parker et al does not teach or suggest the primary communication signal (e.g. Ethernet) is sent over a first output (or 'used' pair of conductors) and the data and power signals are sent over a second output (or 'unused' pair of conductors), However Parker et al. disclosed in para 0020 that one pair (TX/RX) of conductors is used for power signals and the second pair (at least one pair out of 4 pairs in a CAT-5 cable) for data signals (para 0060).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies on such as primary communication signal recited in the amended claims is very broad, which is interpreted to be a control signal as disclosed by Parker et al in para 0045.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce

the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. In this case both Parker et al and Kiko disclosed their invention in the related art of providing and managing power supply over shared medium (LAN/Ethernet medium) and Kiko disclosed a method to currently transmit (multiplex) the primary communication signal over the shared medium with data signal and power signal and hence obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art.

Allowable Subject Matter

7. Claims 32-33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and the claim rejections as made under 35 U.S.C 112 2nd paragraph is overcome for these claims as communicated in this office action.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications should be directed to the attention to Venkatesh Haliyur whose phone number is 571-272-8616. The examiner can normally be reached on Monday-Friday from 9:00AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing Chan can be reached @ (571)-272-7493. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (571)-272-2600 or fax to 571-273-8300.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197(toll-free).

/Venkatesh Haliyur/

Examiner, Art Unit 2619

/Edan Orgad/

Supervisory Patent Examiner, Art Unit 2619